



General Assembly

January Session, 2003

Raised Bill No. 796

LCO No. 1732

Referred to Committee on Energy and Technology

Introduced by:
(ET)

AN ACT CONCERNING THE LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN RATING SYSTEM.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

1 Section 1. Section 16a-38 of the general statutes is repealed and the
2 following is substituted in lieu thereof (*Effective July 1, 2003*):

3 (a) As used in this section, subsection (e) of section 4b-23, sections
4 16a-38a and 16a-38b, unless the context otherwise requires: (1) "Major
5 capital project" means the construction or renovation of a major
6 facility; (2) "major facility" means any building owned by the state or
7 constructed or renovated wholly or partly with state funds, including a
8 state-financed housing project, which is used or intended to be used as
9 a school or which has ten thousand or more gross square feet, or any
10 other building so owned, constructed or renovated which is
11 designated a major facility by the Commissioner of Public Works; (3)
12 "renovation" means additions, alterations or repairs to a major facility
13 which the Commissioner of Public Works finds will have a substantial
14 effect upon the energy consumption of the facility; (4) "life-cycle cost"
15 means the cost, as determined by the methodology identified in the
16 National Institute of Standards and Technology's special publication

17 544 and interagency report 80-2040, available as set forth in the Code of
18 Federal Regulations, Title 15, Part 230, of a major facility including the
19 initial cost of its construction or renovation, the marginal cost of future
20 energy capacity, the cost of the energy consumed by the facility over
21 its expected useful life or, in the case of a leased facility, over the
22 remaining term of the lease, and the cost of operating and maintaining
23 the facility as such cost affects energy consumption; (5) "energy
24 performance standard" means a rate of energy consumption which is
25 the minimum practically achievable, on a life-cycle cost basis, by
26 adjusting maintenance or operating procedures, modifying a
27 building's equipment or structure and utilizing renewable sources of
28 energy; (6) "energy audit" means an evaluation of, recommendations
29 for and improvements of the energy consumption characteristics of all
30 passive, active and operational energy systems and components by
31 demand and type of energy used including the internal energy load
32 imposed on a building by its occupants, equipment and components,
33 and the external energy load imposed on a building by the climatic
34 conditions at its location; (7) "renewable sources of energy" means
35 energy from direct solar radiation, wind, water, geothermal sources,
36 wood and other forms of biomass; (8) "cost effective" means that
37 savings exceed cost over a ten-year period; (9) "state agency" means
38 any department, board, commission, institution, or other agency of this
39 state; and (10) "covered products" means the consumer products set
40 forth as covered products in the Energy Policy and Conservation Act,
41 42 USC 6292.

42 (b) (1) Except as provided in subsection (f) of this section, the
43 Commissioner of Public Works and the Secretary of the Office of
44 Policy and Management shall jointly establish and publish standards
45 for life-cycle cost analyses required by this section for buildings owned
46 or leased by the state. Such life-cycle cost analyses for buildings shall
47 provide, but shall not be limited to, information on the estimated
48 initial cost of each energy-consuming system being compared and
49 evaluated, annual operating and maintenance costs of all energy-
50 consuming systems over the useful life of the building, cost of energy,

51 salvage value and the estimated replacement cost for each energy-
52 consuming system or component expressed in annual terms for the
53 useful life of the building.

54 (2) Except as provided in subsection (f) of this section, the
55 Commissioner of Administrative Services and the Secretary of the
56 Office of Policy and Management may jointly establish and publish
57 standards for life-cycle cost analyses required by this section for
58 equipment and appliances owned or leased by the state which are not
59 covered products, and for such equipment and appliances which are
60 covered products. In establishing such standards, the commissioner
61 and secretary shall consider the criteria set forth in subsection (j) of this
62 section.

63 (c) No state agency shall obtain preliminary design approval for a
64 major capital project unless the Commissioner of Public Works makes
65 a written determination that the design is cost effective on a life-cycle
66 cost basis. To make such a determination, the commissioner (1) shall
67 require documentation that the design meets or exceeds the standards
68 set forth in the National Bureau of Standards Handbook 135, or
69 subsequent corresponding handbook of the United States Department
70 of Commerce and the State Building Code, and (2) may require
71 additional documentation, including, but not limited to, a life-cycle
72 cost analysis that complies with the standards established pursuant to
73 subdivision (1) of subsection (b) of this section.

74 (d) All design proposals for major capital projects shall include at
75 least two differing energy systems for space heating, cooling and hot
76 water to supplement the passive features designed into the building.
77 Such proposals may include computer or other analytical modeling or
78 simulation but shall not be construed to require the development of
79 architectural or mechanical design plans for each such system. All cost
80 evaluations of the competing energy systems shall be based on life-
81 cycle costs. A life-cycle cost analysis for each competing energy system
82 determined by the Commissioner of Public Works to meet the

83 standards of subsection (b) of this section shall be included as part of
84 the design proposal for all projects. No major capital project shall be
85 approved by the Commissioner of Public Works or by the State
86 Properties Review Board pursuant to section 4b-23, after June 30, 1980,
87 unless the proposed project achieves to the maximum extent
88 practicable the energy performance standards established in
89 accordance with subsection (b) or (g) of this section.

90 (e) All applications for state funding of major capital projects shall
91 be accompanied by a life-cycle cost analysis which the Commissioner
92 of Public Works has determined complies with the standards
93 established pursuant to subsection (b) of this section. The
94 Commissioner of Public Works or the Secretary of the Office of Policy
95 and Management may require such a life-cycle cost analysis for
96 projects other than major capital projects.

97 (f) The Commissioner of Economic and Community Development
98 and the Secretary of the Office of Policy and Management shall jointly
99 establish and publish energy performance standards for buildings
100 constructed as part of state-owned and state-financed housing projects
101 and establish standards for life-cycle cost analyses for such projects. In
102 establishing such standards, the commissioner and secretary shall
103 require all projects to meet or exceed the Leadership in Energy and
104 Environmental Design's Rating System for New Construction, as
105 established by the United States Green Building Council, as revised
106 from time to time and consider (1) the coordination, positioning and
107 solar orientation of the project on its situs, (2) the amount of glazing,
108 degree of sun shading and direction of exposure, (3) the levels of
109 insulation incorporated into the design, (4) the variable occupancy and
110 operating conditions of the facility, (5) all architectural features which
111 affect energy consumption, and (6) the design and location of all
112 heating, cooling, hot water and electrical systems.

113 (g) Notwithstanding any provision in this section concerning the
114 review of life-cycle cost analyses by the Commissioner of Public

115 Works, a life-cycle cost analysis of a major capital project prepared for
116 the Department of Housing shall be reviewed by the Commissioner of
117 Economic and Community Development and the Secretary of the
118 Office of Policy and Management to determine if such analysis is in
119 compliance with the life-cycle cost analyses standards established for
120 such project under subsection (f) of this section.

121 (h) Each state agency preparing a life-cycle cost analysis under this
122 section shall submit a summary of the analysis to the Secretary of the
123 Office of Policy and Management.

124 (i) Except as provided in subsection (f) of this section, the
125 Commissioner of Public Works and the Secretary of the Office of
126 Policy and Management shall jointly establish and publish energy
127 performance standards for existing and new buildings owned or
128 leased by the state. Such standards shall require maximum efficiency
129 in energy use in all such buildings and maximum practicable use of
130 renewable sources of energy in all such buildings provided the benefits
131 of achieving such efficiency outweigh the costs, as determined by the
132 commissioner and the secretary. In establishing such standards, the
133 commissioner and secretary shall require all projects to meet or exceed
134 the Leadership in Energy and Environmental Design's Rating System
135 for New Construction or Existing Buildings, as established by the
136 United States Green Building Council, as revised from time to time, as
137 applicable, and consider (1) the coordination, positioning and solar
138 orientation of the project on its situs, (2) the amount of glazing, degree
139 of sun shading and direction of exposure, (3) the levels of insulation
140 incorporated into the design, (4) the variable occupancy and operating
141 conditions of the facility, (5) all architectural features which affect
142 energy consumption, and (6) the design and location of all heating,
143 cooling, hot water and electrical systems.

144 (j) Except as provided in subsection (f) of this section, the
145 Commissioner of Administrative Services and the Secretary of the
146 Office of Policy and Management may jointly establish and publish

147 energy performance standards for equipment and appliances owned
 148 or leased by the state which are not covered products, and for such
 149 equipment and appliances which are covered products. Any such
 150 standards shall require maximum energy efficiency for all such
 151 equipment and appliances and, for equipment and appliances owned
 152 or leased by the state which are covered products, shall be more
 153 stringent than the corresponding federal energy conservation
 154 standards set forth in the Energy Policy and Conservation Act, 42 USC
 155 6295, or federal regulations adopted thereunder. In establishing such
 156 standards, the commissioner and secretary shall consider, without
 157 limitation, (1) the initial cost of the equipment or appliance, (2) the
 158 projected useful lifetime of the equipment or appliance, (3) the
 159 projected cost of the energy that the equipment or appliance will
 160 consume over its projected useful lifetime, (4) the estimated operating
 161 costs for maintenance and repair, over the projected useful lifetime of
 162 the equipment or appliance, and (5) the positive or negative salvage
 163 value of the equipment or appliance upon disposal at the conclusion of
 164 its projected useful lifetime.

165 (k) Any life-cycle cost analysis standards established pursuant to
 166 subdivision (2) of subsection (b) of this section and any energy
 167 performance standards established pursuant to subsection (j) of this
 168 section shall be implemented in accordance with the purchasing
 169 requirements set forth in chapter 58, and any regulations adopted
 170 thereunder, and the provisions of this section and section 16a-38j.

This act shall take effect as follows:	
Section 1	<i>July 1, 2003</i>

ET

Joint Favorable C/R

GAE